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ABSTRACT

This report contains tabular data on energy consumption for the calendar year 1972 and a forecast of natural gas requirements for the period 1973 to 1976. Broad sector categories used in the tables are electric utilities, residential commercial, industrial, and transportation. Tables show energy consumption by primary source and major sector for the years 1960, 1965, 1970, 1971, 1972, and 1973 estimates. The energy consumption is measured in Trillion British Thermal Units (T-BTU). Consumption of fossil fuels by sector is shown for 1972, and is estimated for 1973 in units of tons of coal, thousands of barrels of petroleum, and million cubic feet of natural gas. Summary consumption tables by sector are provided in the appendixes. (MLF)

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CONSUMPTION OF ENERGY IN NEW YORK STATE: 1972

(Supplement to O.E.R. No. 10)

(Replaces O.E.R. No. 15)

O.E.R. Report No. 19

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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CONSUMPTION OF ENERGY IN NEW YORK STATE: 1972

(with estimates for 1973)

by
OLAF HAUSGAARD
Principal Econometrician

O.E.R. Report No. 19
January, 1974

Alvin Kaufman, Director
Office of Economic Research

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Consumption of Energy in New York State: 1972

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CONSUMPTION OF ENERGY IN NEW YORK STATE: 1972

Introduction

Energy balances for New York State for the period 1960 through 1970 were developed and published by the Department of Public Service in February 1972 under the title Consumption of Energy in New York State: 1960-1970, O.E.R. Report No 10. In February 1973, O.E.R. Report No. 15 was issued and contained energy balances for 1971 and revisions of the data contained in O.E.R. No. 10. The present report will replace O.E.R. No. 15 in addition to containing data on energy consumption for calendar year 1972. Although this is not an auspicious period to begin estimating energy consumption, this report contains the author's impressions of the general level of energy demand for calendar year 1973.

Summary

Revisions in the 1971 consumption data for fossil fuels as reported by the U. S. Bureau of Mines, based on new tabulations, reveals that energy consumption in New York State in 1971 was 4,239.3 Trillion British Thermal Units (T-BTU), a drop of 53.6 T- TU from 1970 (-1.2%).[1/][2/] The decline was a result of an unprecedented drop in fossil fuel demand by the industrial sector from 577.6 T-BTU in 1970 to 455.4 T-BTU in 1971. In 1972 the industrial sector consumed 414.8 T-BTU from fossil fuels, a decline of 8.9% from the 1971 level. During both 1971 and 1972 the other three major energy consuming sectors continued their upward trend in energy consumption. During 1972 the growth in these other sectors

1/The preliminary 1971 data indicated a marginal decline in energy consumption of 12.4 T-BTU to 4,280.5 T-BTU.

2/T-BTU = Trillion BTU.

were large enough to overcome the declines in the industrial sector so that the overall energy consumption in the state increased by 61.5 T-BTU (1.5%) to 4,280.8 T-BTU. (See table H)

The consumption of natural gas in 1972, according to the U. S. Bureau of Mines, was 689 billion cubic feet, a decline of 27.2 BCF (-3.8%) from 1971. While a decline in the consumption of natural gas is not unprecedented (a decline occurred in 1967) it is a clear sign of the supply problems anticipated[1/] for this fuel for the remainder of the decade. The demand for natural gas was cut back by restrictions in its use for electric generation and deliveries to industrial interruptible customers.

Coal consumption continued the steady decline begun in 1967. Coal consumption is expected to decline in 1973, since the electric utilities were not able to effectuate a shift from oil to coal during the calendar year. A leveling off, or even an increase in coal consumption, can be anticipated for 1974. While the demand for coal has been the major constraint in the determination of coal consumption levels in recent years, any appreciable shift by electric utilities back to coal generation will result in a shift to the supply side as the major consumption constraint.

The generation of electricity by hydro and nuclear plants has continued to increase, and this trend can be expected to continue. The operation of the Power Authority of New York's pumped storage facilities in Schoharie County beginning in 1974 will require some alterations in our energy balance accounting system to

1/ See Effect of Gas Restrictions on the Demand for Electricity in New York State, a P.S.C. Staff Report, Page II 10.

prevent double counting of total hydro generation available to customers in this state. The short term (1974) effect of the trade-off of 3 kilowatts for 2 kilowatts associated with pumped storage could be a reduction in total energy available to ultimate customers from hydro sources, although peak load capability will be enhanced.

Refined Petroleum Products -- The consumption of all refined petroleum products in the state has continued to increase through the end of 1972, and is estimated to increase in 1973 as well. Distillate consumed for electric generation jumped from 1971 to 1972, but is forecast to decline between 1972 and 1973. The increase in petroleum products consumed by the transportation sector primarily reflects the growth in gasoline used. The decrease in distillate and residual oils used for transportation reflects consumption declines by vessels and by the military. The decline in residual oil consumption in the industrial sector in 1971 and 1972 cannot be associated with any specific (manufacturing) industry. It cannot be explained by changes in the New York State Commerce Department index of factory output, or by employment levels in manufacturing.

The consumption of petroleum products by the residential-commercial sector declined from 974.5 T-BTU's in 1970 to 965.2 in 1971, but reached 983.0 T-BTU's in 1972. Liquid petroleum gases (propane) and kerosine, which represent minor energy inputs, increased in both 1971 and 1972. The decline in distillate oil consumed in 1971 reflects the demand for this fuel for heating purposes (military use actually increased from 1970 to 1971). The consumption of both oils by the residential-commercial sector increased in 1972.

Estimates for 1973

The consumption of fossil fuels by the electric utility industry in New York State during 1973 are based on nine months of actual data, as published by the U. S. Bureau of Mines. The fourth quarter was estimated using the ratio between the third and fourth quarters of 1972. These estimates were reviewed in the light of Article VIII 149-b submissions by the major electric companies.

The supply of natural gas available to consumers in New York State was taken from the probable supply levels estimated by the Gas Division, which were published previously.[1/] The distribution of the gas supply among the major consuming sectors was based on the 1973 Gas Operations Advisory Committee Report. Basically, a cutback in gas to industrial interruptible customers was made to balance the estimated supply and the sector consumption levels (see below).

The estimate for jet fuel consumption was taken from the Air Transport Associations' report Turbine Fuel Forecast: 1972-1981.

The preliminary estimates for the remaining fuel-sector cohorts were obtained by extrapolating the 1961-1972 compound growth rate. These rates were reviewed for reasonableness in terms of their performance in estimating consumption levels for 1961 through 1972, and in the light of the behavior of various economic indicators[2/] over the period 1961 to 1972 and between the first half of 1972 and 1973.

1/New York State Public Service Commission Staff Report, The Effects of Gas Restrictions on the Demand for Electricity in New York State.

2/The New York State Commerce Department Publication Business Statistics was relied upon.

Natural Gas and G.O.A.C.

Consumption of Energy in New York State, O.E.R. Reports Number 10 and 15, utilized the U. S. Bureau of Mines Data on the consumption of Natural Gas in New York State.

In my opinion, a superior and more detailed series on natural gas supply and demand is now available. In compliance with the New York State Public Service Commission Case 25766, the natural gas distribution companies in this state through the New York State Gas Operations Advisory Committee (G.O.A.C.) currently issue, on an annual basis, detailed data on natural gas supply and its distribution. These G.O.A.C. reports, in addition to historical data, contain forecasts for five years. The additional advantages of the G.O.A.C. report is that: (1) the data is reported separately for each (all) gas distribution company, (2) the supply data includes liquid natural gas, synthetic natural gas, liquid petroleum gas, and inventory changes, (3) on the demand or requirements side a distinction is made between terminable or curtailable, interruptible, and firm requirements, (4) data is available on peak day requirements. The G.O.A.C. data will be higher than the Bureau of Mines data because the Mines data: (1) only covers the larger distribution companies, (2) does not include LNG and SNG, and (3) is reported in various btu values from year to year (usually around 1030 btu per cubic foot while G.O.A.C. is reported on a nominal 1020 btu per cubic foot).

A summary of the distribution of natural gas from the G.O.A.C. reports for the historical period 1969 to 1972, and the forecast period 1973 to 1976 is given in the following two tables. The G.O.A.C. reports were not used in determining the 1972 data presented elsewhere in this report. The Mines data was used in order to maintain consistancy with the 1960-1971 data already published.

FORECAST OF NATURAL GAS REQUIREMENTS: 1973-1976
(in millions of cubic feet)

Consumer group	1973	1974	1975	1976
Total Requirements	739,088	731,138	729,235	738,585
Electric Utilities*	66,838	48,000	37,700	37,100
Residential-Commercial	505,127	517,382	524,547	532,527
Residential	363,146	373,440	379,402	386,072
Commercial	141,981	143,942	145,145	146,455
Industrial	167,123	165,756	166,988	168,958
Gas Utilities	38,876	39,226	36,373	36,930
Other	128,247	126,530	130,615	132,028

Source: 1973 New York Gas Report (G.O.A.C.)
*Estimated by O.E.R.

DISTRIBUTION OF NATURAL GAS IN NEW YORK STATE:
1969 to 1972 (in million cubic feet)

Consumer group	1969	1970	1971	1972
Total Requirements	717,469.8	733,858.7	740,400.7	747,946
Electric Utilities*	107,260	106,141	98,573	75,507
Residential-Commercial	453,931.2	473,697.9	485,968.1	508,701
Residential	335,342.0	348,912.9	355,150.6	368,121
Commercial	118,589.2	124,785.0	130,817.5	140,580
Industrial	156,278.6	154,019.8	155,859.6	163,738
Gas Utilities	33,026.8	27,836.9	26,335.4	39,824
Other	123,251.8	126,182.9	129,524.2	123.914

Source: 1972 and 1973 G.O.A.C. Reports
*U.S. Bureau of Mines

Table A.1
Energy Consumption By Primary Source and
Major Sector: New York, 1973 Estimate
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Total, Primary	4,414.5	1,220.9	1,530.0	423.6	1,240.0
Coal, Total	332.5	137.1	10.0	185.3	-
Anthracite	18.1	-	8.9	9.2	-
Bituminous	314.4	137.1	1.2	176.1	-
Petroleum, Total	2,960.6	610.6	1,004.7	105.3	1,240.0
Distillate	715.9	65.1	569.5	28.9	52.4
Residual	1,097.8	545.5	379.3	66.1	106.9
Gasoline	882.5	-	-	-	882.5
Kerosine	44.5	-	40.0	4.5	-
Jet Fuel	196.7	-	-	-	196.7
LPG	23.2	-	15.9	5.8	1.5
Hydro	315.0	315.0	-	-	-
Nuclear	90.0	90.0	-	-	-
Natural Gas	716.4(1)	68.2	515.2	133.0	-

(1) See footnote to Table G.

Table A.2
Estimated Consumption of Fossil Fuels by Sector
in New York: 1973

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Coal, total (1)	13,574.0	5,609.4	402.6	7,562.0	-
Anthracite	715.0	-	353.0	362.0	-
Bituminous	12,859.0	5,609.4	49.6	7,200.0	-
Petroleum, total (2)	513,783	97,946	169,291	17,757	228,789
Distillate	122,931	11,173	97,800	4,958	9,000
Residual	174,615	86,773	60,335	10,507	17,000
Gasoline	167,689	-	-	-	167,689
Kerosine	7,848	-	7,056	792	-
Jet Fuel	34,700	-	-	-	34,700
LPG	6,000	-	4,100	1,500	400
Natural Gas (3)	702,390	66,838	505,127	130,425	-

(1) In thousands of tons
(2) In thousands of barrels
(3) In million cubic feet. See footnote to Table G.

Table B.1
Energy Consumption By Primary Source
And Major Sector: New York 1972
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Sector totals	N.A.	N.A.	2,148.3	824.2	1,210.8
Electric	N.A.	N.A.	649.0	409.4	31.4
Totals, primary	4,280.8	1,187.3	1,499.3	414.8	1,179.4
Coal, total	341.5	141.5	10.4	189.6	-
Anthracite	18.3	-	9.2	9.1	-
Bituminous	323.2	141.5	1.2	180.5	-
Petroleum, total	2,839.8	578.0	983.0	99.4	1,179.4
Distillate	711.4	76.0	557.1	27.5	50.8
Residual	1,031.8	502.0	371.9	62.9	95.0
Gasoline	849.7	-	-	-	849.7
Kerosine	43.9	-	39.4	4.5	-
Jet Fuel	182.5	-	-	-	182.5
LPG	20.5	-	14.6	4.5	1.4
Hydro	315.9	315.9	-	-	-
Nuclear	74.1	74.1	-	-	-
Natural Gas	709.5	77.8	505.9	125.8	-

Table B.2
Consumption of Fossil Fuels By Sector In
New York: 1972

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Coal, total (1)	13,899	5,790	411	7,698	-
Anthracite	722	-	360	362	-
Bituminous	13,177	5,790	51	7,336	-
Petroleum, total (2)	492,866	92,892	165,473	16,674	217,827
Distillate	122,075	13,037	95,601	4,722	8,715
Residual	164,123	79,855	59,152	10,007	15,109
Gasoline	161,457	-	-	-	161,457
Kerosine	7,730	-	6,938	792	-
Jet Fuel	32,178	-	-	-	32,178
LPG	5,303	-	3,782	1,153	368
Natural Gas (3)	689,329	75,507	491,559	122,263	-

(1) In thousands of tons
(2) In thousands of barrels
(3) In million cubic feet

Table C
Energy Consumption By Primary Source
and Major Sector: New York 1971
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Sector Totals	N.A.	N.A.	2,087.4	846.7(r)	1,206.5
Electricity	-	N.A.	618.6	391.3	32.4
Total, Primary	4,239.3(r)	1,141.0	1,468.8	455.4(r)	1,174.1
Total, Coal	402.9	179.6	13.3	210.0	-
Anthracite	23.0	-	12.0	11.0	-
Bituminous	379.9	179.6	1.3	199.0	-
Total, Petroleum	2,734.3(r)	495.8	965.2	99.2(r)	1,174.1
Distillate	663.1	42.7	542.5	25.7	52.2
Residual	1,003.5(r)	453.1	371.1	64.1(r)	114.6
Gasoline	822.7	-	-	-	822.7
Kerosine	43.3	-	38.0	5.3	-
Jet Fuel	183.3	-	-	-	183.3
LPG	18.4	-	13.0	4.1	1.3
Hydro and Nuclear	364.1	364.1	-	-	-
Hydro	289.2	289.2	-	-	-
Nuclear	74.9	74.9	-	-	-
Natural Gas	738.0	101.5	490.3	146.2	-

r - revised

Table D
Energy Consumption By Primary Source
and Major Sector: New York 1970
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Sector Totals	N.A.	N.A.	2,056.9	964.4	1,179.4
Electricity	-	N.A.	592.0	386.8	32.9
Total, Primary	4,292.9	1,103.9	1,464.9	577.6	1,146.5
Total, Coal	589.2	285.1	14.1	290.0	-
Anthracite	22.2	-	12.0	10.2	-
Bituminous	567.0	285.1	2.1	297.8	-
Total, Petroleum	2,638.1	378.5	974.5	138.6	1,146.5
Distillate	647.2	18.7	549.5	24.5	54.5
Residual	958.6	359.8	375.7	107.4	115.7
Gasoline	786.0	-	-	-	786.0
Kerosine	39.7	-	36.7	3.0	-
Jet Fuel	189.2	-	-	-	189.2
LPG	17.4	-	12.6	3.7	1.1
Hydro and Nuclear	330.5	330.5	-	-	-
Hydro	281.9	281.9	-	-	-
Nuclear	48.6	48.6	-	-	-
Natural Gas	735.1	109.8	476.3	149.0	-

Table E
Energy Consumption By Primary Source
and Major Sector: New York 1965
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Sector Total	N.A.	N.A.	1,714.1	875.7	929.0
Electricity	-	N.A.	397.3	300.9	29.8
Total, Primary	3,602.1	811.3	1,316.8	574.8	899.2
Total, Coal	760.8	369.0	34.6	357.2	-
Anthracite	40.1	-	24.8	15.3	-
Bituminous	720.7	369.0	9.8	341.9	-
Total, Petroleum	2,055.5	146.5	892.4	117.4	899.2
Distillate	609.8	1.1	517.2	44.8	46.7
Residual	647.4	145.4	337.6	66.5	97.9
Gasoline	644.6	-	-	-	644.6
Kerosine	31.9	-	27.4	4.5	-
Jet Fuel	109.5	-	-	-	109.5
LPG	12.3	-	10.2	1.6	0.5
Hydro and Nuclear	218.5	218.5	-	-	-
Hydro	210.6	210.6	-	-	-
Nuclear	7.9	7.9	-	-	-
Natural Gas	567.3	77.3	389.8	100.2	-

Table F
Energy Consumption By Primary Source
and Major Sector: New York 1960
(Trillion BTU's)

	Total All Sectors	Electric Utilities	Residential Commercial	Industrial	Trans-portation
Sector Totals	N.A.	N.A.	1,285.9	779.1	761.6
Electricity	-	N.A.	228.3	279.2	27.7
Total, Primary	2,857.3	565.9	1,057.6	409.9	733.9
Total, Coal	704.5	306.7	80.1	317.7	-
Anthracite	93.2	-	68.7	24.6	-
Bituminous	611.2	306.7	11.4	293.1	-
Total, Petroleum	1,578.3	65.8	674.4	104.2	733.9
Distillate	475.8	1.1	397.9	28.2	48.6
Residual	481.5	64.7	239.4	72.4	105.0
Gasoline	539.7	-	-	-	539.7
Kerosine	30.0	-	27.4	2.6	-
Jet Fuel	40.3	-	-	-	40.3
LPG	11.0	-	9.7	1.0	0.3
Hydro and Nuclear	132.5	132.5	-	-	-
Hydro	132.5	132.5	-	-	-
Nuclear	-	-	-	-	-
Natural Gas	442.0	60.9	303.1	78.0	-

Table G
Total Primary Resources Used for Fuel and Power in New York State
(Trillion BTU's)

Year	Total	Coal	Refined Petroleum(1)	Natural Gas	Total, Fossil Fuel	Hydro and Nuclear
1960	2,857.3	704.5	1,578.2	422.0	2,724.8	132.5
1961	3,001.5	650.6	1,693.6	455.8	2,800,0	201.5
1962	3,206.1	653.5	1,828.6	495.3	2,977.4	228.7
1963	3,259.0	653.0	1,863.5	530.8	3,047.3	211.7
1964	3,350.9	746.6	1,869.6	536.9	3,153.1	197.8
1965	3,602.1	760.8	2,055.5	567.3	3,383.6	218.5
1966	3,778.5	705.9	2,169.7	657.1	3,532.7	245.8
1967	3,948.7	744.5	2,327.4	610.9	3,682.8	265.9
1968	4,010.7	677.4	2,403.4	658.2	3,729.0	281.7
1969	4,180.7	648.1	2,524,5	704.2	3,876.8	303.9
1970	4,292.9	589.2	2,638.1	735.1	3,962.4	330.5
1971	4,239.3	402.9	2,734.3	738.0	3,875.2	364.1
1972	4,280.8	341.5	2,839.8	709.5	3,890.8	390.0
1973(e)	4,414.5	332.5	2,960.6	716.4(2)	4,009.5	405.0

(1) Excludes naphtha type jet fuel, still gas, and petroleum coke.
(2) Estimated on a G.O.A.C. basis - this represents a 6% decline from the 1972 level of 747.9 BCF to 702 BCF for 1972.

(e) estimated by O.E.R.

Table H
Fossil Fuel Consumed in New York State,
By Major Sectors (1)
(Trillion BTU's)

Year	Total, All Sectors	Residential and Commercial	Industrial	Trans-portation	Electric Utilities
1960	2,724.8	1,057.6	499.9	733.9	433.4
1961	2,800.0	1,133.6	477.1	758.9	430.4
1962	2,977.4	1,186.5	503.0	820.3	467.6
1963	3,047.3	1,193.7	499.7	856.1	497.8
1964	3,153.1	1,143.3	566.4	902.9	540.5
1965	3,383.6	1,316.8	574.8	899.2	592.8
1966	3,532.7	1,387.5	603.4	951.1	590.7
1967	3,682.8	1,401.1	608.8	1,013.0	659.9
1968	3,729.0	1,420.2	593.5	1,058.5	656.8
1969	3,876.8	1,422.4	579.5	1,136.9	718.0
1970	3,962.4	1,464.9	577.6	1,146.5	773.4
1971(r)	3,875.2	1,468.8	455.4	1,174.1	776.9
1972	3,890.8	1,499.3	414.8	1,179.4	797.3
1973(e)	4,009.5	1,530.0	423.6	1,240.0	815.9

(1) Excludes electricity consumed, and hydro and nuclear inputs to the electric utility industry.

r - revised e - estimate

Table I
Per Cent Distribution of Primary Energy
Sources and Energy Consumption By
Major Sectors: New York State

Item	1970	1971(r)	1972	1973(e)
Energy Consumed (T-BTU's)	4,292.9	4,239.3	4,280.8	4,414.5
By Source, Total	100.0%	100.0%	100.0%	100.0%
Coal	13.7	9.5	8.0	7.5
Natural Gas	17.1	17.4	16.6	16.2
Petroleum	61.5	64.5	66.3	67.1
Residual Oil	22.3	23.7	24.1	24.9
Distillate Oil	15.1	15.6	16.6	16.2
Gasoline	18.3	19.4	19.8	20.0
Hydro and Nuclear	7.7	8.6	9.1	9.2
By Sector, Total	100.0%	100.0%	100.0%	100.0%
Electric Utilities	25.7	26.9	27.7	27.6
Residual-Commercial	34.1	34.7	35.0	34.7
Industrial	13.5	10.7	9.7	9.6
Transportation	26.7	27.7	27.6	28.1

(r) - revised (e) - Estimate

Appendix

A. Summary of Primary Energy Inputs

Table 1.0 All Sectors - All Sources - See Table G of this Report.

Table 1.1 All Sectors - Refined Petroleum Products (T-BTU)

Year	Total	LPG	Dist.	Resid.	Gas	Kero.	Jet
1970	2,638.1	17.4	647.0	958.6	786.0	39.7	189.2
1971	2,734.3(r)	18.4	663.1	1,003.5(r)	822.7	43.3	183.3
1972	2,839.8	20.5	711.4	1,031.8	849.9	43.9	182.5

Table 1.2 Percent Distribution by Fuels and by Sectors - See Table I of this Report.

Table 2.0 Fossil Fuels Consumed by Sector - See Table H of this Report.

B. Electric Utility Industry

Table 3.0 All Inputs (T-BTU)

Year	Total All	Coal	Petro.	N.G.	H & N	Total F.F.
1970	1,103.9	285.1	378.5	109.8	330.5	773.4
1971	1,141.0	179.6	495.8	101.5	364.1	776.9
1972	1,187.3	141.5	578.0	77.8	390.0	797.3

Table 3.1 Generation by Type of Fuel (Million KWH)

Year	Coal	Fuel Oil	N.G. Dry	Total F.F.	Hydro	Nuclear	Tot. All
1969	32,649	22,826	9,167	64,642	26,347	1,272	92,261
1970	26,437	31,039	8,824	66,320	24,780	4,273	95,373
1971	N.A.	N.A.	N.A.	66,754	25,178	6,521	98,453
1972	N.A.	N.A.	N.A.	68,133	27,542	6,465	102,140

Table 3.2 Heat Rates, Gross Generation, and Sales of Electricity

Year	BTU Input (Tril.)	Gr. Gen.	BTU/KWH Gen.	Sales (Mil. KWH)	BTU Value of KWH Sold (tril.)
1970	1,103.9	95,373	11,570	87,407	1,011.3(r)
1971	1,141.0	98,453	11,590	89,926	1,042.2
1972	1,187.3	102,140	11,620	93,754	1,089.8

Table 3.3 Electric Sales by Sector (Million KWH, T-BTU)

Year	Res. & Comm.		Ind.		Transportation	
	KWH	BTU	KWH	BTU	KWH	BTU
1970	51,147	592.0	33,414	386.8	2,846(r)	32.9
1971	53,372	618.6	33,761	391.3	2,793	32.4
1972	55,833	649.0	35,220	409.4	2,701	31.4

C. Residential and Commercial Sector

Table 4.0 All Energy Inputs (T-BTU).

Year	Total	Coal	Nat. Gas	R.P.P.	Total F.F.	Elec.
1970	2,056.9(r)	14.1	476.3	974.5(r)	1,464.9(r)	592.0
1971	2,087.4	13.3	490.3	965.2	1,468.8	618.6
1972	2,148.3	10.4	505.9	983.0	1,499.3	649.0

Table 4.1 Refined Petroleum Products (T-BTU).

Year	Total	LPG	Dist.	Resid.	Kero.
1970	974.5(r)	12.6	549.5(r)	375.7	36.7
1971	965.2	13.0	542.5	371.7	38.0
1972	983.0	14.6	557.1	371.9	39.4

D. Industrial Sector

Table 5.0 All Energy Inputs (T-BTU).

Year	Total-All	Coal	N.G.	R.P.P.	Total F.F.	Elec.
1970	964.4(r)	290.0	149.0	138.6(r)	577.6(r)	386.8
1971	846.7(r)	210.0	146.2	99.2(r)	455.4(r)	391.3
1972	824.2	189.6	125.8	99.4	414.8	409.4

Table 5.1 Refined Petroleum Products (T-BTU)

Year	Total	LPG	Distillate	Resid.	Kero.
1970	138.6(r)	3.7	24.5	107.4(r)	3.0
1971	99.2(r)	4.1	25.7	64.1(r)	5.3
1972	99.4	4.5	27.5	62.9	415

E. Transportation Sector

Table 6.0 Total Energy Inputs (T-BTU).

Year	Total	Dist.	LPG	Resid.	Gas	Jet	Total F.F.	Elec.
1970	1,179.4(r)	54.5(r)	1.1	115.7(r)	786.0	189.2	1,146.5(r)	32.9
1971	1,206.5	52.2	1.3	114.6	822.7	183.3	1,174.1	32.4
1972	1,210.8	50.8	1.4	95.0	849.7	182.5	1,179.4	31.4

Table 6.1 Energy Used by Motor Vehicles (T-BTU).

Year	Total	Gas.	Dist. Oil*	LPG
1971	763.3	728.8	33.2	1.3
1972	791.4	755.2	34.8	1.4

*on highway (diesel oil)

Table 6.2 Energy Used By Commercial Aircraft (T-BTU).

Year	Total	Jet Fuel	Aviation Gas
1971	277.2	183.3	93.9
1972	276.6	182.1	94.5

Table 6.3 Energy Used By Vessels (T-BTU).

Year	Total	Residual	Distillate	Military Resid.
1970(r)	121.6	104.6	6.2	10.8
1971	119.8	105.6	5.6	8.6
1972	98.1	86.1	3.7	8.3

Table 6.4 Energy Used By Railroads (T-BTU).

Year	Total	Residual	Distillate	Elec.
1971	46.2	0.5	13.3	32.4
1972	44.2	0.6	12.3	31.3

F. Anthracite Coal

Table 7.0 Shipments of Pennsylvania Anth. to N. Y. S.

Year	Thousands of Tons			BTU Content (Trillions)		
	Total	Truck	Rail	Total	Comm. & Res.(e)	Ind.(e)
1971	915	373	532	23.0	12.0	11.0
1972	722	441	281	18.3	9.2	9.1

(e) - estimated

G. Bituminous Coal

Table 8.0 Distribution of Bituminous COal by Consumer Group. (Thousands of Tons)

Year	Total	Elec. Ut.	Coke & Gas Pl.	Retil Dealers	Other
1971	15,596	7,373	4,188	54	3,981
1972	13,177	5,790	4,118	51	3,218

Table 8.1 Distribution of Bituminous Coal, by Consumer Group. (T-BTU).

Year	BTU/Tons (1,000's)	Total-All	Elec. Ut..	Ind. Sect.	Coke & Gas Pl.	Retail Dealers
1964	26,856(r)	694.9	345.2	341.5	153.4	8.2
1971	24,358	379.9	179.6	199.0	102.0	1.3
1972	24,454	323.2	141.5	180.5	100.7	1.2

H. Natural Gas

Table. 9.0 Natural Gas Distribution. (Million cubic feet).

Year	Total	Res.	Comm.	Ind.	Elec. Util.	Other(*)
1971	716,550	352,085	123,908	116,557	98,573	25,427
1972	689,329	363,412	128,147	103,084	75,507	19,179

(*) Includes extraction losses lease and plant fuel, and pipeline fuel. The exclusions were estimated at 3,877 MMCF in 1971.

Table 9.1 Natural Gas Delivered by Consumer Group. (T-BTU)

Year	Total-all	El. Gen.	Res.	Comm.	Ind. & Other
1971	738.0	101.5	362.7	127.6	146.2
1972	709.5	77.8	374.0	131.9	125.8

Note: Btu Cont. for N.Y.S. from E.E.I. Yrbk was used: Btu/cu. ft.: 1971, 1030; 1972, 1029

I. Liquid Petroleum Gases and Ethane

Table 10.0 LPG Sales. (Thou. gallons)

Year	Total	Res. & Comm.	Int. Comb. Eng. Fuel	Ind.	Utility Gas	Misc.
1971	199,809	141,758	13,690	28,384	2,760	3,237
1972	222,728	158,852	15,460	40,696	3,058	4,662

Table 10.1 LPG Sold in Barrels and Btu's.

	Thousand Barrels		Trillion Btu's	
Year	Total All	Res. & Comm.	Total All	Res. & Comm.
1971	4,757	3,375	18.4	13.0
1972	5,303	3,782	20.5	14.6

Table 10.2 LPG Sold to Selected Groups. (Thou. of barrels)

Year	Int. Comb. Eng. Fuel	Industrial	Utility Gas	Misc.
1971	326	913	66	77
1972	368	969	73	111

Table 10.3 LPG Sold to Selected Groups. (T-BTU)

Year	Int. Comb. Eng. Fuel	Industrial	Utility Gas
1971	1.3	3.8	0.3
1972	1.4	4.2	0.3

J. Distillate Fuel Oils

Table 11.0 Sales by Sector. (Thou. barrels)

Year	Total-all	Res. & Comm.	Ind.	Transp.	Elec. Ut.	Unacct. For
1970(r)	111,122	94,337	4,206	9,352	3,227	-
1971	113,833	93,133	4,406	8,955	7,339	-
1972	122,075	95,601	4,722	8,715	13,037	-

Table 11.1 Sales by Sector. (T-BTU)

Year	Total-all	Res. & Comm.	Ind.	Transp.	Elec. Ut.	Unacct. For
1970	647.2	549.5	24.5	54.5	18.7	-
1971	663.1	542.5	25.7	52.2	42.7	-
1972	711.4	557.1	27.5	50.8	76.0	-

Table 11.3 Sales to the Transportation Sector. (Thou. of barrels)

Year	Total	RR	Vessels	Diesel Oil on Highways
1970(r)	9,352	2,500	1,066	5,721
1971	8,955	2,283	966	6,706
1972	8,715	2,115	636	5,964

Table 11.3 Sales to the Transportation Sector. (T-BTU)

Year	Total	RR	Vessels	Diesel Oil on Highways
1970(r)	54.4	14.4	6.2	33.3
1971	52.1	13.3	5.6	33.2
1972	50.8	12.3	3.7	34.8

Table 11.4 Sales to the Res.-Comm. Sector. (Barrels in thous.; Btu's in trill.)

	Res.-Comm.		Heating Oils		Military	
Year	Barrels	Btu's	Barrels	Btu's	Barrels	Btu's
1970(r)	94,337	549.5	93,043	542.0	1,294	7.5
1971	93,133	542.5	91,739	534.4	1,394	8.1
1972	95,601	557.1	94,108	548.4	1,493	8.7

Table 11.5 Sales to the Industrial Sector. (Thous. of barrels)

Year	Total	Ind.	Diesel Oil	Oil Co. Fuel	Not Class. Elsewhere
1970(r)	4,306	2,527	1,058	126	595
1971	4,406	2,578	1,130	103	595
1972	4,722	2,454	1,543	119	606

Table 11.6 Distillate Oil Sales to the Industrial Sector. (T Btu's)

Year	Total	Ind.	Diesel Oil	Oil Co. Fuel	Not Class. Elsewhere
1970(r)	25.1	14.7	6.2	0.7	3.5
1971	25.7	15.0	6.6	0.6	3.5
1972	27.5	14.3	9.0	0.7	3.5

K. Residual Fuel Oils

Table 12.0 Residual Oil Sales, all uses. (Thous. of barrels)

Year	Total-all	Heating	Total (exc. heating)	El. Ut.	Total(*)
1970(r)	152,487	59,757	92,730	57,224	35,506
1971	159,609(r)	59,115	100,494(r)	72,075	25,419(r)
1972	164,123	59,152	104,971	79,855	25,116

(*) Less heating and Electric Utilities.

Table 12.1 Residual Oil Sales by Consumer Group. (Thous. of barrels)

Year	RR	Vessels	Oil Co. Fuel	Ind.	Mil.	Misc.
1970(r)	67	16,632	112	16,516	1,712	467
1971	76	16,796	178	9,619(r)	1,360	390
1972	98	13,687	526	9,212	1,324	269

Table 12.2 Residual Oil Sales to Selected Groups. (T-BTU)

Year	Total-all	Heating(1)	Elec. Ut.	Total(2)	RR & Vessels
1964	531.9	218.2	113.0(r)	418.9	105.1
1970(r)	958.6	375.7	359.8	598.8	105.0
1971	1,003.5(r)	371.7	453.1	550.4(r)	106.1
1972	1,031.8	371.9	502.0	529.8	86.7

(1) Household & Commercial
(2) Except Elec. Ut.

Table 12.3 Residual Oil Sales to the Industrial Sector. (Barrels-thous.)

Year	Industrial Sector		Trillion Btu's		
	Barrels	Btu's	Industry	Oil Co. Fuel	Misc.
1970(r)	17,095	107.4	103.8	0.7	2.9
1971	10,187(r)	64.1(r)	60.6(r)	1.1	2.4
1972	10,007	62.9	57.9	3.3	1.7

Table 12.4 Sales to Transp. Sector in N.Y.S. (Barrels-thous.; T-BTU)

Year	Transportation Total		Btu's		
	Barrels	Btu's	RR	Vessels	Military
1970	18,411	115.7	0.4	104.6	10.7
1971	18,232	114.6	0.5	105.6	8.5
1972	15,109	95.0	0.6	86.1	8.3

L. Gasoline, Kerosine and Jet Fuel Consumption

Table 13.0 Gasoline Consumed in N.Y.S.

Year	Thousands of Barrels		Trillion Btu's	
	Total	Motor Gas.	Total	Motor Gas.
1971	156,761	138,875	822.7	728.8
1972	161,457	143,495	849.7	755.2

Table 14.0 Kerosine Sales in New York State.

Year	Thousand Barrels			Trillion Btu's	
	Total	Heating	Misc. Uses	Total	Heating
1971	7,640	6,709	931	43.3	38.0
1972	7,730	6,938	792	43.9	39.4

Table 15.0 Jet Fuel Sales in N. Y. S. (Thousands of barrels)

Year	Barrels	T-Btu's
1971	32,321	183.3
1972	32,178	182.5

M. Petroleum Asphalts and Road Oils

Table 16.0 Sales of Petroleum Asphalts for All Use. (Thou. of Tons)

Year	Total-All	Paving Prod.	Roofing Prod.	All Other Uses	Total - All Uses BTU-Value (tril.)	Total - All Uses Barrels (thous.)
1970(r)	1,085.1	1,036.5	10.8	37.8	39.9	6,011.4
1971	1,022.3(r)	999.3(r)	20.0	30.8	37.6(r)	5,663.5(r)
1972	1,033.3	988.5	10.0	34.8	38.0	5,724.5

Table 16.1 Sales of Petro. Asphalts for Paving Prod. (Thou. of Tons)

Year	Total-All	Asphalt	Cutback	Emulsified
1970(r)	1,036.5	687.6	182.7	166.2
1971(r)	999.3(r)	699.4	128.8(r)	171.1
1972	988.5	694.1	133.6	160.8

Table 16.2 Sales of Road Oil.

Year	Road Oil (Tons)	Btu's (Trill.)	Road Oil (Thou. Barrels)
1970	1,322	0.05	7.8
1971	39,720(r)	1.55(r)	234.3(r)
1972	41,608	1.63	245.4

N. Hydro and Nuclear Generation

Table 17.1 Generation of Electric Energy in N.Y.S.

Year	Gen. (Mill. Kwh)	Heat Rate	T-Btu (Equivalent)
1970	4,273	11,373	48.6
1971	6,521	11,488	74.9
1972	6,465	11,469	74.1

Table 18.0 Hydro Electric Generation in New York State.

Year	Millions of Kwh	Trillions of Btu's
1970	24,781	281.9
1971	25,178	289.2
1972	27,542	315.9

List of Abbreviations Used

(r) - Revised

Bit. - Bituminous

Co. - Company

Dist. - Distillate

Elec. - Electric

Elec. Ut. - Electric Utilities

Gr. Gen - Gross Generation

H & N - Hydro and Nuclear

Ind. - Industrial

Int. Comb. Eng. - Internal Combustion Engine

Kero. - Kerosine

LPG - Liquid Petroleum Gas

Mil. - Military

Misc. - Miscellaneous

N.G. and/or Nat. Gas - Natural Gas

Petro. - Petroleum

Prod. - Products

Ref. Petro. Prod. - Refined Petroleum Products

Resid. - Residual Fuel Oil

Res. & Comm. - Residential and Commercial

RR - Railroad

Sect. - Sector

Total FF - Total Fossil Fuel

Transp. - Transportation